ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract **Element Code:** PDBRAO6200
Data Sensitivity: NO

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Arabis tricornuta* Rollins
COMMON NAME: Rincon Mountain rockcress, Chiricahua rock cress
SYNONYMS: *Pennellia tricornuta*
FAMILY: Brassicaceae

AUTHOR, PLACE OF PUBLICATION: R.C. Rollins, J. Wash. Acad. Sci. 29(11): 478-479. 1939.

TYPE LOCALITY: Eastview, Rincon Mountains, Pima County, Arizona, U.S.A. 8200 feet.

TYPE SPECIMEN: HT: GH-18805. J.C. Blumer 3478, 13 October 1909.

TAXONOMIC UNIQUENESS: Species *tricornuta* is 1 of 87 in the genus *Arabis*. In Arizona, there are ten species of *Arabis*, six of which have northerly distributions, found generally in the Sierra Nevada's, Great Basin, or Rocky Mountains, and are rare in Arizona. Only *Arabis gracilipes* and *A. tricornuta* are endemic to Arizona (Kearney and Peebles 1951). *Arabis tricornuta* is not closely related to any other North American species of *Arabis* (Rollins 1939).

DESCRIPTION: A perennial forb, 30-70 cm (12-28 in) tall, with a single stem that is branched above; dendritic trichomes, branched with 3-5 arms. Lower cauline leaves petiolate, oblanceolate, pubescent with harsh 2- or usually 3-pronged trichomes, 3-5 cm (1.2-2 in) long and 1 cm wide; upper cauline leaves linear to narrowly lanceolate, glabrous. Flowers are small, forming narrow racemes. Sepals are glabrous, oblong, 3-4 mm long, 2-3 mm wide, unequal, not saccate, inner pair tapering at the base. The petals are white (In SEINet, a 1938 collection reports flowers pinkish, while a 1989 collection reports flower purple), lingulate to nearly spatulate, thickened toward base with edges rolled outward, erose to entire along petal margin, not differentiated into blade and claw, 4-5 mm long, ca. 1.5 mm wide. Stamens slightly shorter than petals, filament of short stamen curved, filament of long stamen straight; nectar glands surrounding short stamens, only subtending long stamens; pedicels slender, gently curved downward, glabrous, 1-1.5 cm long. Siliques (fruit of the mustard family) are 3-7 cm (1.2-2.8 in) long, 2-3 mm wide, flat, blunt, narrowly spatulate and widely spreading, ascending, spreading at right angles or widely curved downward; style ca. 1 mm long; stigma entire. Seeds are flat, conspicuously winged all around, 4-5 mm long, 1.5 mm wide, uniseriate; cotyledons obliquely accumbent (Rollins, 1939, Rollins 1993, Falk and Roller 1999).

AIDS TO IDENTIFICATION: This species resembles *Pennellia micrantha,* particularly during the flowering period. They are almost identical in habit, inflorescence, flower, and pubescence. The most reliable way of distinguishing these two species is by examining the siliques. The siliques of *P. micrantha* are erect, terete, and nerved to the middle or above; the seeds are plump, angled, and marginless (Kearney and Peebles 1951, Rollins 1939, Rollins 1993, Falk and Roller 1999). The siliques of *A. tricornuta* are glabrous, slightly ascending or spring at right angles or widely curved downward, often secund, 3-7 cm long and 2-3 mm wide; the seeds are flat, nearly orbicular to longer than wide about 1.5 mm wide about 2 mm long and conspicuously winged all around. The flower and upper parts of *A. tricornuta* resemble those of *A. laevigata,* an eastern U. S. species that extends west to Colorado, but the petiolate, cauline leaves of *A. tricornuta* easily distinguish the two species. All other species of *Arabis* in Arizona have sessile cauline leaves (Rollins 1939).

ILLUSTRATIONS: Line drawing (B. Dennis, *in* Falk, Jenkins, et al. 2001)
Color photo of habitat (Mima Falk, *in* Falk, Jenkins, et al. 2001)

TOTAL RANGE: Endemic to southern Arizona.

RANGE WITHIN ARIZONA: Cochise County - Chiricahua and Huachuca mountains; Pima County - Rincon Mountains; Santa Cruz County - Santa Rita Mountains.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Evergreen perennial forb.

PHENOLOGY: Flowering July – October [-November]. Fruiting August - November. Falk et al. (2001) report flowering from July to mid-August, often found covered with siliques by late-August.

BIOLOGY:

HABITAT: Generally found on steep and rocky slopes in the understory with pine trees, and on road banks.

ELEVATION: Approximately 6,000 – 8,840 ft. (1830-2696 m), based on records in SEINet (accessed 2006). Falk, Jenkins et al. (2001) reports elevation ranging from 7,000-9,000 ft (2130-2750).

EXPOSURE: Various. Open shade.

SUBSTRATE: Unknown

PLANT COMMUNITY: Madrean evergreen woodland and madrean montane conifer forest (Brown 1994). Associated species include: *Pinus arizonica* (Arizona pine), *P. engelmannii* (Engelmann pine), and *Quercus hypoleucoides* (silver-leaf oak), (Bennett et al. 1996). *Pinus ponderosa* (Ponderosa pine), *Pseudotsuga menziesii* (Douglas-fir), *Quercus gambelii* (Gambel oak), and *Q. hypoleucoides* (SEINet accessed 2006).

POPULATION TRENDS: Unknown.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: None
OTHER STATUS: Forest Service Sensitive (USDA, FS Region 3 1999)

MANAGEMENT FACTORS: The limited distribution and apparent rarity of this species are reasons to consider this species in the management of areas where it occurs.

CONSERVATION MEASURES TAKEN:

SUGGESTED PROJECTS: Populations in the Santa Rita and Rincon mountains need to be re-verified, as these are based on old collections. More surveys need to be conducted to determine its full range, population size, and possible threats.

LAND MANAGEMENT/OWNERSHIP: USFS - Coronado National Forest.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

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ADDITIONAL INFORMATION:

In August of 1991, there were a total of 19 collections of *A. tricornuta* at the University of Arizona Herbarium. Fourteen of these were from the Chiricahua Mountains, 3 were from the Huachuca Mountains, and 2 were from the Santa Rita Mountains. At that time (Aug. 1991) there were only 3 collections at the ASU Herbarium. All 3 of these were from the Chiricahua Mountains.

Revised: 1998-12-16 (RHB)
1999-11-09 (DJG)
2006-05-04 (SMS)